





Possible Alternatives to Unlicensed Specials

Specials are individually prepared formulations of existing drugs made for a specific patient. They are usually much more expensive than standard preparations. Specials are unlicensed medicines and should only be considered when use of a licensed preparation is not possible.

The table below lists examples of commonly prescribed medicines and alternative methods of administration for patients with swallowing difficulties, feeding tubes or patients prescribed unlicensed 'specials' medication which **may** be suitable for consideration. The table contents for each drug are listed in hierarchy of risk order (see <u>flow chart</u>). The document is subject to clinical interpretation and judgement on an individual basis and the needs and best interests of the patient should be taken into account. Manipulation of a licensed product will be outside of the product's marketing authorisation. However, there is evidence and clinical experience detailed in reputable sources (e.g. NEWT guidelines) confirming that formulation manipulation of this nature can take place without compromising the effectiveness of the medicine. The prescriber should contact the patient's community pharmacy (if known) to ensure the pharmacist is aware that a licensed product is being used off license. The list is not exhaustive and will be reviewed and updated regularly. <u>Please note that prices of drugs can vary monthly so please confirm price before prescribing.</u>

Specials are available from many different manufacturers and the costs can vary widely. The Department of Health introduced the specials tariff in 2011 as a means of addressing this and the Drug Tariff now includes a list of commonly prescribed specials which are reimbursed at a fixed price. Drug Tariff specials are reimbursed at a set price for quantities up to and including a "minimum volume" with an additional cost per ml/g for quantities above this.

For some liquid specials, a licensed liquid preparation may be available in a different concentration Please follow the <u>primary care prescribing guidelines</u> when prescribing any liquid medication which state: Clinicians should always specify the strength of the formulation, the dose in milligrams/micrograms and also the volume.

If the prescriber wishes to prescribe tablets or capsules which are deemed suitable for dispersing in water or crushing, then this should be included in the medication dosage instructions.

Prescribers are asked to confirm that when prescribing a special they make certain that the correct Actual Medical Product description (AMP) is selected. This is to ensure there is no delay in the community pharmacy procuring the medication. This should be in the format:

- For a Drug Tariff Special order e.g. Allopurinol 300mg/5ml oral suspension (Drug Tariff Special Order)
- For an unlicensed (non-drug tariff special) e.g. Entacapone 200mg/5ml oral suspension (Special Order).

Further advice can be sought from the Medicines Management Team, the patient's Community Pharmacist or the Medicines Information Service. Advice can also be provided on the correct process for administering crushed tablets or capsule contents safely including whether the formulation is suitable for administration via a feeding tube. Further information can also be found in 'Choosing medicines for patients unable to take solid oral dosage forms' available at: https://best.barnsleyccg.nhs.uk/clinical-support/medicines/prescribing-guidelines/Oral%20medication%20problems-%20alternative%20prescribing.pdf







Current Drug	Formulation Alternatives/Administration guidance ²	Drug Tariff Special (√)	Minimum Volume* (Tariff Specials²)	Cost of possible alternative¹ (the cost of the minimum volume has been quoted for Drug Tariff specials, please note that there is an additional cost/ml for quantities above this)
Acetylcysteine	Prescribe as Acetylcysteine 600mg effervescent tablets.			£5.50 (600mg x 30 tablets)
Acetylcysteine eye drops 5% Preservative Free 10% Preservative Free	Confirm if the patient is intolerant to the preservative benzalkonium chloride. If not prescribe as Ilube® (not preservative free).			£59.99 (5% x 10ml)
Alendronic acid	Alendronic acid 70mg effervescent tablets sugar free			£11.60 (4 tablets)
	Alendronic acid 70mg/100ml oral solution unit dose sugar free (licensed preparation).			£32.48 (4 units)
Allopurinol	Allopurinol tablets can be crushed and mixed with water (off-label use). Allopurinol is insoluble in water but when crushed and shaken in approximately 10ml of water will produce a milky solution.			£0.75 (100mg x 28 tablets) £1.03 (300mg x 28 tablets)
	Allopurinol 100mg/5ml oral suspension (unlicensed preparation) Allopurinol 300mg/5ml oral suspension (unlicensed preparation) (Note: Suspension is more cost effective than solution).	*	150ml 100ml	£24.60 (100mg/5ml x150ml) £22.35 (300mg/5ml x 100ml)
Alverine Citrate	Consider switch to Mebeverine 50mg/5ml oral suspension sugar free (licensed preparation).			£205.70 (Mebeverine 50mg/5ml x 300ml)
	Alverine citrate capsules may be opened and dispersed in water. Alverine may cause an anaesthetic effect and numbing of the lips and tongue when given in this manner.			£3.21 (120mg x 60 capsules) £3.06 (60mg x 100 capsules)







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Amiodarone	Amiodarone tablets can be crushed and mixed with water to form a suspension for enteral feeding or mixed with jam for oral administration - bitter taste (off-label use).			£1.86 (100mg x 28 tablets) £1.52 (200mg x 28 tablets)
	Amiodarone 100mg/5ml oral suspension (unlicensed preparation). Amiodarone 50mg/5ml oral suspension (unlicensed preparation).	✓	100ml 100ml	£43.02 £30.43
Amisulpride	Amisulpride solution 100mg/ml (licensed preparation - 2 months expiry once opened). Please note strength is 100mg per 1ml. Please include the required dose in milligrams and volume on the dosage directions e.g. Amisulpride 100mg/ml oral solution prescribe 400mg (4mls) twice daily. 50mg (0.5ml) is the minimum volume of the licensed 100mg/ml preparation which can be accurately measured using the 5ml graduated oral syringe provided.			£109.56 (60ml)
Amitriptyline	Amitriptyline oral solution sugar free 25mg/5ml (licensed preparation). Amitriptyline oral solution sugar free 50mg/5ml (licensed preparation).			£20.30 (25mg/5ml x 150ml)£19.20 (50mg/5ml x 150ml) £0.68 (25mg x 28 tablets)
	Amitriptyline tablets can be crushed and dispersed in water prior to administraton ² (off-label use).			£0.86 (50mg x 28 tablets)
Amlodipine	Amlodipine tablets (besilate or maleate salts) can be crushed and dispersed in water for administration orally or via a feeding tube ² (off-label use). Administer immediately as resultant liquid is light sensitive.			£0.94 (5mg x 28 tablets) £0.97 (10mg x 28 tablets)
	Amlodipine 5mg/5ml oral solution (licensed preparation) OR Amlodipine 10mg/5ml oral solution (licensed preparation) (Note: Licensed oral solution has high acquisition cost).	✓	150ml 150ml	£75.76 £115.73







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Apixaban	Apixaban tablets may be crushed and suspended in water or apple juice or mixed with apple puree and given either orally or through nasogastric tube. (Crushed tablets are stable in water, apple juice or apple puree for 4 hours)			£57.00 (2.5mg x 60 tablets) £53.20 (5mg x 56 tablets)
Atorvastatin	Atorvastatin (Lipitor®) chewable tablets 10mg, 20mg (licensed preparation).			£13.80 (10mg x 28 tablets) £26.40 (20mg x 28 tablets)
	Atorvastatin 20mg/5ml oral suspension (licensed preparation). (Note: Licensed liquid preparation has high acquisition cost).			£198.76 (150ml)
	Atorvastatin tablets can be crushed and dispersed in water for administration orally or via a feeding tube ² (off-label use). Administer immediately as resultant liquid is light sensitive.			£0.90(10mg x 28 tablets) £1.24(20mg x 28 tablets) £1.32(40mg x 28 tablets) £1.83 (80mg x 28 tablets)
	Atorvastatin 10mg/5ml oral solution (unlicensed preparation). (Note: Solution is more cost effective than suspension).	✓	150ml	£28.02
Bendroflumethiazide	There are no suitable licensed liquid formulations of bendroflumethiazide or other thiazide diuretics. Loop diuretics are available as liquid formulations.			£0.83 (2.5mg x 28 tablets)
	Bendroflumethiazide tablets can be dispersed in water and given orally or via a feeding tube (off-label use).			
	Bendroflumethiazide 2.5mg/5ml oral suspension (unlicensed preparation).	✓	150ml	£41.45
Bisacodyl rectal solution	Bisacodyl suppositories (licensed preparation).			£3.53 (12 x 10mg suppositories)







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Bisoprolol	Atenolol and propranolol are the only beta blockers available in liquid formulations. These are not licensed for use in heart failure.			
	Cardicor® (bisoprolol) tablets disperse rapidly in water. If administered via a PEG or PEJ flush tube well with boiled and cooled water to avoid blockage (off-label use).			£5.90 (5mg x 28 tablets)
	Bisoprolol 2.5mg/5ml oral <u>solution</u> (unlicensed preparation). (Note for 2.5mg/5ml strength solution is more cost effective. For other strengths suspension is more cost effective).	✓	150ml	£21.64
Captopril	Captopril 25mg/5ml oral solution sugar free (licensed preparation). (Note: Licensed oral solution has high acquisition cost).		100ml	£103
	Captopril tablets can be crushed and dispersed in water ² (off-label use).			£1.78 (25mg x 56 tablets)
Clindamycin	Clindamycin 75mg/5ml oral suspension (licensed preparation).	✓	100ml	£26.14
	Clindamycin capsules may be opened and sprinkled on food (off-label use). Capsule contents taste unpleasant but may be mixed with syrup (e.g. maple syrup)			£7.45 (75mg x 24 capsules)
Clonazepam	Clonazepam 500micrograms/5ml oral solution sugar free (licensed preparation).			£77.09 (150ml)
	Clonazepam 2mg/5ml oral solution sugar free (licensed preparation). (Note: Licensed oral solution has a high acquisition cost. (Note: Solution is more cost effective than suspension).			£108.36 (150ml)
	Clonazepam tablets can be dispersed in at least 30ml of water ² (off-label use). Suitable for administration orally or via some feeding tubes (8Fr and above).			£31.82(500micrograms x 100 tablets)







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Clopidogrel	Clopidogrel tablets can be crushed (although this may be difficult due to the coating) and dispersed in water (off-label use).			£1.43 (28 x 75mg tablets)
	Clopidogrel oral solution 75mg/5ml (unlicensed preparation). (Note: Solution is more cost effective than suspension).	✓	150ml	£35.76
Co-careldopa liquid	Co-careldopa standard release tablets can be crushed and mixed with water ² (off-label use). Modified release preparations must not be crushed.			£11.60 (100x 25mg/100mg tablets)
	Alternatively consider changing to co-beneldopa dispersible (licensed preparation). Contact the Medicines Management Team for advice on dose conversion.			£6.91 (co-beneldopa dispersible 25mg/100mg x 100)
	Co-careldopa 12.5mg/50mg/5ml oral suspension (unlicensed preparation). Co-careldopa 25mg/100mg/5ml oral suspension (unlicensed preparation).	✓	100ml 100ml	£68.94 £31.51
Colecalciferol	Review prescribing in line with SY ICB Barnsley place guidance https://best.barnsleyccg.nhs.uk/clinical-support/medicines/prescribing-guidelines/Vit_D_Management_Guideline.pdf Prescribe by brand e.g. Stexerol D3®.			£2.95 (1000iu x 28 tablets)
	SY ICB Barnsley place, in line with NHS England recommendations, does not promote the prescribing of vitamin D for maintenance or preventative therapy. Patients requiring maintenance or preventative therapy should be advised to purchase an enhanced dose therapy supplement over the counter preparation in line with the Barnsley self-care guidance. In exceptional circumstances consider prescribing Thorens 10,000iu/ml drops.			







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Cyclizine	Switch to an alternative anti-emetic that is available as a liquid or suppository e.g. metoclopramide or domperidone.			
	Cyclizine 50mg/5ml oral <u>suspension</u> (unlicensed preparation). (Note: Suspension is more cost-effective than solution).	✓	100ml	£27.32
Dantrolene	Dantrolene capsules may be opened, and the contents sprinkled in water or acidic fruit juice (e.g. apple, orange, grapefruit etc (off-label use).			£43.07 (100mg x 100 capsules) £16.87 (25mg x 100 capsules)
	Dantrolene 10mg/5ml oral suspension (unlicensed preparation). Dantrolene 25mg/5ml oral suspension (unlicensed preparation). Dantrolene 100mg/5ml oral suspension (unlicensed preparation).	✓ ✓	100ml 100ml 100ml	£80.73 £18.76 £13.30
Dabigatran	Do not open capsules. Consider Apixaban instead as license covers crushing tablets. NOTE: cannot be used in dosette boxes. Consider Apixaban as an alternative.			£51.00 (all strengths x 60 capsules)
Desmopressin	Desmopressin 10micrograms/dose nasal spray should be used where appropriate.			£32.22 (60 doses)
	Desmopressin tablets may be crushed and mixed with water (off-label use).			£66.09 (100microgram x 90 tablets)
Diazepam	Diazepam oral solution 2mg/5ml sugar free (licensed preparation).			£31.75 (100ml)
Diclofenac	Switch to an alternative NSAID available as a liquid (e.g. Ibuprofen 200mg/5ml oral suspension sugar free).			£3.49 (100ml)
	Diclofenac 50mg/5ml oral suspension (unlicensed preparation).	✓	150ml	£62.48







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Diltiazem cream/ointment 2%	Consider GTN ointment 0.4% as an alternative if clinically appropriate (licensed preparation).			£39.30 (30g)
Dipyridamole	Secondary prevention ischaemic stroke / TIA – Clopidogrel is now recommended as 1 st line choice for these patients.			£1.16 (75mg x 28 tablets)
	Modified release capsules may be opened and the modified release granules mixed with water ² . The granules must not be crushed (off-label use). There is a risk that the granules could block a feeding tube.			£13.015 (200mg x 60 capsules)
	Dipyridamole 200mg/5ml oral suspension sugar free (licensed preparation), licensed for thromboprophylaxis in patients with prosthetic heart valves in combination with oral anticoagulation.			£39.40 (200mg/5ml x 150ml)
Enalapril	Enalapril tablets may be crushed and dispersed in water (off-label use: bitter taste).			£4.54 (10mg x 28 tablets)
	Enalapril 1.25mg/5ml oral suspension (unlicensed preparation).	✓	150ml	£23.74
	Enalapril 5mg/5ml oral solution (unlicensed preparation). (Note Solution is more cost-effective than suspension for the 6mg/5ml strength).	✓	150ml	£45.36
	Enalapril 10mg/5ml oral <u>suspension</u> (unlicensed preparation).	✓	100ml	£15.85
Entacapone	Entacapone tablets may be crushed and given in water. Crushed tablets have a bitter taste so may be mixed with jam, honey, or juice (off-label use).			£6.95 (200mg x 30 tablets)
	Entacapone 200mg/5ml oral suspension (Unlicensed preparation).			£761.00 (300ml)







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Ergocalciferol oral solution	Review prescribing in line with SY ICB Barnsley Place guidance. http://best.barnsleyccg.nhs.uk/clinical-support/medicines/prescribing-			
	guidelines/Vit_D_Management_Guideline.pdf Ergocalciferol should be reserved only for those patients who cannot take			
Ferrous sulphate	colecalciferol for cultural, dietary, religious, or medical reasons. Ferrous fumarate solution sugar free 140mg (45mg iron)/5ml (licensed preparation).			£5.33 (300ml)
	Sodium feredetate (Sytron®) 190mg (27.5mg iron)/5ml (licensed preparation). See BNF section 9.1.1 for elemental iron content of different salts.			£14.95 (500ml)
Flecainide	Flecainide 10mg/6ml oral suspension (unlicensed preparation and most cost-effective option).	✓	100ml	£6.21
	Flecainide 25mg/5ml oral suspension (unlicensed preparation) (Note: Suspension is more cost-effective than solution).	✓	200ml	£16.59
Folic acid	Folic acid 2.5mg/5ml oral solution sugar free (licensed preparation).			£9.16 (150ml)
	Folic acid tablets may be crushed and dispersed in water ² (off-label use).			£0.99 (5mg x 28 tablets)
Fludrocortisone	Fludrocortisone tablets can be dispersed in water in 1-2 minutes (off-label use).			£10.32 (100micrograms x 30 tablets)
	Fludrocortisone 50microgram/5ml oral suspension (unlicensed preparation). Fludrocortisone 100microgram/5ml oral suspension (unlicensed preparation).	*	100ml 100ml	£30.44 £37.91







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Furosemide	Furosemide 20mg/5ml oral solution sugar free (licensed preparation). Furosemide 40mg/5ml oral solution sugar free (licensed preparation). Furosemide 50mg/5ml oral solution sugar free (licensed preparation). (Please include the required dose in milligrams and volume on the dosage instructions to help avoid errors and confusion e.g. Furosemide 50mg/5ml oral solution 50mg (5ml) once daily in the morning).			£14.81 (150ml) £19.53 (150ml) £20.21 (150ml)
	Furosemide 5mg/5ml oral solution (unlicensed preparation). Note 5mg/5ml oral suspension is 10 times more expensive.) NEWT no longer recommend crushing the tablets.	✓	150ml	£52.96
Gabapentin	Gabapentin 50mg/ml oral solution sugar free (licensed preparation). Please note strength is 50mg per 1ml. Please include the required dose in milligrams and volume on the dosage directions e.g Gabapentin 50mg/ml oral solution prescribe 300mg (6mls) twice daily. Capsules can be opened and sprinkled on food or given in fruit juice to mask unpleasant taste. They should be given immediately as the drug is rapidly hydrolysed²(off-label use).			£2.69 (100mg x 100 capsules) £2.55 (300mg x 100 capsules) £3.36 (400mg x 100 capsules)
Gliclazide	Gliclazide 80mg tablets can be crushed and mixed with water or left to disperse for 3-4 minutes ² (off-label use). Modified release tablets should not be crushed.			£1.10 (80mg x 28 tablets)







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	Equivalent doses 30mg modified release gliclazide = 80mg standard release gliclazide.			
	Gliclazide 40mg/5ml oral suspension (unlicensed preparation).	✓	100ml	£20.82
	Gliclazide 80mg/5ml oral suspension (unlicensed preparation).	✓	150ml	£14.86
Glyceryl trinitrate ointment 0.2 %	Glyceryl trinitrate ointment 0.4% (Rectogesic®) (licensed preparation).			£39.30 (30g)
Glycopyrronium bromide	Glycopyrronium bromide 400mcg/1ml (2mg/5ml) oral solution sugar free (licensed preparation).			£320.00 (250ml)
	Glycopyrronium bromide 1mg/5ml oral solution sugar free (licensed preparation).			£91.00 (150ml)
	Glycopyrronium bromide 1mg and 2mg tablets can be crushed and dispersed in water ² . Note currently higher cost option. Please check drug tariff prior to prescribing (off-label use).			£250.28 (30 x 1mg tablets) £281.61 (30 x 2mg tablets)
	Please note there are numerous different drug tariff manufactured specials (unlicensed preparations). The cost of these varies considerably between strength and drug tariff current price. Please speak to your practice pharmacist/technician for advice and guidance before prescribing.https://www.nhsbsa.nhs.uk/pharmacies-gp-practices-and-appliance-contractors/drug-tariff			
Haloperidol	Haloperidol 5mg/5ml oral solution sugar free (licensed preparation). Haloperidol 10mg/5ml oral solution sugar free (licensed preparation).			£7.31 (100ml) £7.59 (100ml)
	(Note: Licensed oral solution has high acquisition cost).			
Hydrocortisone	Give via parenteral injection if possible. OR			







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	Hydrocortisone 10mg tablets can be crushed and dispersed in water within 1-2 minutes for administration orally or via a feeding tube (off-label use).			£2.14 (10mg x 30 tablets) £3.46 (20mg x 30 tablets)
	Hydrocortisone 10mg soluble tablets sugar free (licensed preparation). Hydrocortisone 20mg soluble tablets sugar free (licensed preparation).			£54.29 (10mg x 30 tablets) £70.00 (20mg x 30 tablets)
	Hydrocortisone 5mg/5ml oral suspension (unlicensed preparation). Hydrocortisone 10mg/5ml oral suspension (unlicensed preparation).	✓	100ml 100ml	£27.05 £20.99
Hyoscine hydrobromide	Hyoscine hydrobromide 150microgram chewable tablets (e.g. Kwells kids®, Joy-rides®). Hyoscine hydrobromide 300microgram chewable tablets (Kwells®). Consider switch to Hyoscine transdermal 1mg/72hrs patch (licensed preparation).			£1.84 (150microgram or 300microgram x 12 tablets) £12.87 (2 patches)
	Hyoscine hydrobromide oral <u>suspension</u> 300mcg/5ml (unlicensed preparation). Note: suspension is more cost-effective than solution. Hyoscine hydrobromide oral <u>suspension</u> 500mcg/5ml (unlicensed preparation). (Note: Suspension is more cost-effective than solution).	✓	100ml 100ml	£10.34 £7.95
Hyoscine butylbromide	Hyoscine butylbromide 20mg/1ml solutions for injection ampoules (licensed preparation: Buscopan).			£3.89 (10 ampoules)
	Hyoscine butylbromide 10mg/5ml oral suspension (unlicensed preparation). (Note: Suspension is more cost-effective than the solution)	✓	100ml	£12.52







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Hypromellose eye drops 0.3% Preservative Free	If a preservative free formulation is required please refer to the Barnsley formulary for brand of choice. See dry eye treatment guidelines for further information: http://best.barnsleyccg.nhs.uk/clinical-support/medicines/prescribing-quidelines/Dry%20Eye%20Treatment.pdf			£2.03 (10ml)
Hypromellose eye drops 0.25 %	Hypromellose eye drops 0.3% (licensed preparation). Please refer to the Barnsley formulary and prescribe as cost-effective brand choice.			£0.71 (10ml)
Indapamide	Tablets may be crushed and dispersed in water. NOTE- Do not crush slow release (SR) formulations but convert to immediate release (IR) (1.5mg SR is equivalent to 2.5mg IR. Off-label use)			£0.97 (2.5mg x 28)
	Indapamide 2.5mg/5ml oral suspension (unlicensed preparation).	✓	100ml	£24.83
Indometacin	Modified release tablets should not be crushed or chewed. Consider using indometacin suppositories 100mg (adults only, licensed preparation).			£17.61 (100mg x 10)
	Indometacin 25mg/5ml oral suspension (unlicensed preparation).	✓	100ml	£24.83
Irbesartan	Tablets may be crushed and mixed with water for immediate oral administration (off-label use).			£1.25 (150mg x 28) £1.50 (300mg x 28)
Isosorbide mononitrate	Standard release tablets may be crushed and dispersed in water (off-label use). Note they have a faster rate of absorption so may have increased side effects.			£1.19 (20mg x 56)
			100ml	£16.68







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	Isosorbide mononitrate 20mg/5ml oral suspension (unlicensed preparation).	✓		
Ketamine	Ketamine oral solution 50mg/5ml (unlicensed preparation) Note: Solution is more cost-effective than suspension Ketamine prescribing guidelines are available at prescribing-guidelines Ketamine	✓	200ml	£28.35
Lansoprazole	Lansoprazole orodispersible tablets (Zoton FasTabs®) can be allowed to disperse in the mouth then swallowed or dispersed in water for administration orally or via a nasogastric feeding tube (licensed preparation).			£2.70 (15mg x 28 orodispersible tablets) £4.93 (30mg x 28 orodispersible tablets)
Levomepromazine	Levomepromazine tablets can be dispersed in water (off-label use).			£20.26 (25mg x 84 tablets) £34.00 (50mg x 84 tablets)
	Levemepromazine 2.5mg/5ml oral suspension (unlicensed preparation). Levemepromazine 6mg/5ml oral suspension (unlicensed preparation). Note 6mg/5ml strength has very high acquisition cost.	✓	100ml 100ml	£25.58 £155.18
Levothyroxine	Levothyroxine 12.5microgram/5ml oral solution (licensed preparation). Levothyroxine 25microgram/5ml oral solution (licensed preparation.) Levothyroxine 50microgram/5ml oral solution (licensed preparation). Levothyroxine 75microgram/5ml oral solution (licensed preparation). Levothyroxine 100microgram/5ml oral solution (licensed preparation). (Note- Licensed oral solution has high acquisition cost).			£100.40 (100ml) £94.99 (100ml) £89.02 (100ml) £125.00 (100ml) £164.99(100ml)
	Levothyroxine tablets may be dispersed in 20-30ml water. Rinse vesicle with a further 30ml water (off-label use).			£0.86 (25microgram x 28) £0.77 (50microgram x 28) £0.77 (100microgram x 28)
Lisinopril	Lisinopril 5mg/5ml oral solution (licensed preparation). (Note- Licensed oral solution has high acquisition cost).			£198.00 (150ml)







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	Lisinopril tablets can be dispersed in water in 1-2 minutes and administered orally or via a feeding tube ² (off-label use). OR Tablets may be used sublingually if the patient has a suitably moist mouth (off-label use)			£0.88 (5mg x 28 tablets)

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Lorazepam	Lorazepam 1mg/5ml oral solution sugar free (licensed preparation).			£103.62 x 150ml
	(Note- Licensed oral solution has high acquisition cost).			£1.53 (1mg x 28 tablets) £3.01 (2.5mg x 28 tablets)
	Lorazepam tablets can be crushed and dispersed in water immediately prior to administration. Tablets take 1-2 minutes to disperse ² (off-label use).			£28.79 (1mg/5ml) £17.48 (500mcg/5ml)
	Lorazepam 1mg/5ml oral <u>solution</u> (unlicensed preparation). Lorazepam 500micrograms/5ml oral <u>solution</u> (unlicensed preparation). (Note: Solution is more cost-effective than suspension).	✓	150ml 150ml	£28.79 £17.48







Losartan	Losartan tablets can be crushed and mixed with 15ml-30ml water prior to administration ² (off-label use).			£1.04 (25mg x 28 tablets)
	Losartan 50mg/5ml oral solution (unlicensed preparation). (Note: Solution is more cost-effective than suspension).	✓	100ml	£20.38
Magnesium Glycerophosphate	Prescribe as the licensed cost effective Magnaspartate sachets (contain 10mmol Mg each). See link to local guidance for information. http://barnsleybest.nhs.sitekit.net/clinical-support/medicines/prescribing-guidelines/Oral%20Magnesium%20Supplementation%20for%20Hypomagne saemia.pdf?UNLID=3508313412017317101944			£9.45 (10 sachets)
	Magnesium glycerophosphate chewable tablet (Licensed preparation magnesium 97.2mg(4mmol).			£22.77 (4mmol x 50 tablets)
	Magnesium glycerophosphate (magnesium 97.2mg/5ml 4mmol/5ml) oral suspension (unlicensed preparation). (Note: Suspension is more cost-effective than solution).	✓	100ml	£2.20
Current Drug	Formulation Alternatives/Administration guidance ²	Drug Tariff Special (✓)	Minimum Volume* (Tariff Specials ²)	Cost of possible alternative¹ (the cost of the minimum volume has been quoted for Drug Tariff specials, please note that there is an additional cost/ml for quantities above this)
Melatonin	Please see the Barnsley formulary at: Barnsley Area Joint Formulary (barnsleyformulary.nhs.uk) for information regarding brand choices, doses and off-label use.			quarititios asserts tritoj
	Or alternatively Barnsley shared care for melatonin at: Melatonin Shared Care Guidelines -children and adolescents.pdf (barnsleyccg.nhs.uk)			
Metformin	Metformin 500mg/5ml oral solution sugar free (licensed preparation).			£5.91 x 150ml
	Metformin standard release tablets can be crushed and dispersed in water prior to oral administration.			£0.95 (500mg x 28 tablets)







Metoclopramide	Metoclopramide 5mg/5ml oral solution sugar free (licensed preparation). (Note- Licensed oral solution has high acquisition cost).	£19.77 (150ml)
	Metoclopramide tablets can be crushed and mixed with water (off-label use).	£0.92 (10mg x 28 tablets)
Metolazone	Metolazone tablets (Xaqua) may be crushed and mixed with water (off-label use). Xaqua® now holds a UK product license and should be product of choice for new patients. Note that the doses of the different brands are not interchangeable. Please refer to the metolazone Amber G guidance for more information.	£110.00 (5mg x 20 tablets)
Metoprolol	Consider switch to alternative beta blocker e.g. atenolol which has a licensed liquid alternative. Metoprolol standard release tablets may be crushed and allowed to disperse in water prior to oral administration (Note- tablets disperse very slowly 3-5mins or longer).	£29.48 (25mg x 28 tablets) £1.48 (50mg x 28 tablets) £2.06 (100mg x 28 tablets)

Current Drug	Formulation Alternatives/Administration guidance ²	Drug Tariff Special (✓)	Minimum Volume* (Tariff Specials²)	Cost of possible alternative¹ (the cost of the minimum volume has been quoted for Drug Tariff specials, please note that there is an additional cost/ml for quantities above this)
Mirtazapine	Use the orodispersible tablets where possible. (licensed preparation.) Mirtazapine 15mg/5ml oral solution sugar free (licensed preparation). (Note- Licensed oral solution has high acquisition cost).			£1.81 (15mg x 30 tablets £1.85 (30mg x 30 tablets) £2.14 (45mg x 30 tablets) £117.00 (66ml)
Nitrazepam	Convert to Diazepam 2mg/5ml oral solution (Note- Nitrazepam 5mg equivalent to Diazepam 5mg).			£58.82 (2mg/5ml x 100ml)







	Nitrazepam oral suspension 2.5mg/5ml (licensed preparation). (Note- Licensed oral solution has high acquisition cost).	£145.00 (2.5mg/5ml x 70ml)
Nitrofurantoin	Nitrofurantoin SF susp 25mg/5ml x 300ml (licensed preparation). Nitrofurantoin tablets cannot be crushed –irritant. Capsules can be opened (not MR) and contents mixed with water. Food increases absorption of nitrofurantoin (Off-label use).	£450.03 (300ml)/ 300ml £10.42 (100mg x 30 capsules)
Olanzapine	Olanzapine orodispersible tablets (sugar free tablets are the formulation of choice) can be allowed to disperse in the mouth then swallowed or dispersed in water or orange juice for administration down PEG or PEJ (licensed preparation).	£29.98 (5mg x 28 SF tablets) £19.85 (10mg x 28 SF tablets) £48.79 (15mg x 28 SF tablets) £79.98 (20mg x 28 SF tablets)

Current Drug	Formulation Alternatives/Administration guidance ²	Drug Tariff Special (✓)	Minimum Volume* (Tariff Specials ²)	Cost of possible alternative¹ (the cost of the minimum volume has been quoted for Drug Tariff specials, please note that there is an additional cost/ml for quantities above this)
Omeprazole	Omeprazole dispersible tablets (Losec MUPS®) can be allowed to disperse in the mouth then swallowed or dispersed in water for administration orally (licensed preparation).			£9.30 (10mg x 28 tablets) £13.92 (20mg x 28 tablets)
	Dispersible tablets are usually acceptable for large bore feeding tubes (>12Fr, unlicensed administration route) but the granules may block fine bore feeding tubes. Lansoprazole Fastabs® are licensed for administration via a nasogastric tube. Esomeprazole tablets are licensed for administration via a gastric tube and esomeprazole granules are licensed for administration via a nasogastric or gastric tube. Lansoprazole Fastabs® and esomeprazole			Lansoprazole Fastabs® £2.70 (15mg x 28 tablets) £4.93(30mg x 28 tablets) Esomeprazole tablets £2.29 (20mg x 28 tablets)







	tablets and granules should be mixed with water to give a dispersion of small granules prior to administration via the above feeding tubes.	£2.78 (40mg x 28 tablets)
	(NEWT guidelines now have printable patient information leaflets. Please speak to your medicines management pharmacist/technician or clinical pharmacist in practice who will be able to assist).	Esomeprazole granules £25.19 (10mg x 28)
Oxybutynin	Oxybutynin 2.5mg/5ml oral solution sugar free (licensed preparation). Oxybutynin 5mg/5ml oral solution sugar free (licensed preparation). (Note: Licensed preparation has high acquisition cost).	£214.84 (150ml) £236.90 (150ml)
	Oxybutynin tablets may be crushed and dispersed in water prior to administration ² (off-label use).	£1.37 (2.5mg x 56 tablets) £1.47 (5mg x 56 tablets)
	Patches are prescribable, if appropriate.	£27.20 (8 patches)

Current Drug	Formulation Alternatives/Administration guidance ²	Drug Tariff Special (✓)	Minimum Volume* (Tariff Specials ²)	Cost of possible alternative¹ (the cost of the minimum volume has been quoted for Drug Tariff specials, please note that there is an additional cost/ml for quantities above this)
Phenobarbital	Phenobarbital 15mg/5ml elixir (licensed preparation). (Note: Licensed preparation has high acquisition cost).			£83.01 (500ml)
	Phenobarbital tablets may be crushed and mixed with water (off-label use).			£24.25 (15mg x 28 tablets)
	Phenobarbital 50mg/5ml oral suspension (unlicensed preparation) (Note: Solution is more cost-effective than suspension).	✓	100ml	£89.98
Phenytoin	Phenytoin oral suspension 30mg/5ml (licensed preparation).			£4.27 (30mg/5ml x 500ml)
		✓	500ml	£48.53







	Phenytoin 90mg/5ml oral <u>suspension</u> (unlicensed preparation). Note: 90mg oral suspension is equivalent to 100mg tablets or capsules.			
Pizotifen	Pizotifen tablets can be crushed and mixed with water.			£1.53 (500micorgrams x 28 tablets) £1.60 (1.5mg x 28 tablets)
	Pizotifen 250micrograms/5ml oral Suspension			
	(Note: Solution is 10 times more expensive than suspension).	✓	100ml	£33.74
Potassium	Prescribe as either:			20.05 (000
	Sando-K effervescent tablets OR			£9.95 (600mg x 100 tablets)
	Kay-Cee-L Syrup			£10.15 (375mg/5ml x 500ml
Pravastatin	Tablets may be crushed and dispersed in water for oral administration (off-label use).			£1.43 (10mg x 28 tablets) £1.63 (20mg x 28 tablets) £1.95 (40mg x 28 tablets)
Current Drug	Formulation Alternatives/Administration guidance ²	Drug Tariff Special (✓)	Minimum Volume* (Tariff Specials²)	Cost of possible alternative¹ (the cost of the minimum volume has been quoted for Drug Tariff specials, please note that there is an additional cost/ml for quantities above this)
Prednisolone Sodium Phosphate eye drops 0.05%	Consider prednisolone sodium phosphate 0.1% eye drops (unlicensed special). See national guidance on ophthalmic special order products.	√	10ml	£45.88
Pregabalin	Consider if Pregabalin appropriate. Has the patient tried Gabapentin?			
	Pregabalin 20mg/ml (100mg/5ml) oral solution sugar free (licensed preparation).			£93.42 (473ml)
	(Note- Licensed oral solution has high acquisition cost).			







Primidone	Primidone tablets may be crushed and mixed with water. They will disperse in two to five minutes when crushed. Primidone is poorly soluble (off-label use).			£88.02 (50mg x 100 tablets) £116.19 (250mg x 100 tablets)
	Primidone 50mg/5ml oral suspension (unlicensed preparation). Primidone 62.4mg/5ml oral suspension (unlicensed preparation). Primidone 50mg/5ml oral suspension (unlicensed preparation).	√ √ √	150ml 100ml 150ml	£12.69 £14.60 £99.59
Pyridoxine	Pyridoxine tablets can be crushed and dispersed in water (off-label use).			£16.98 (10mg x 28 tablets) £21.93 (50mg x 30 tablets)
	Pyridoxine 100mg/5ml oral solution (unlicensed preparation). (Note: Solution is more cost-effective than suspension).	✓	100ml	£17.13







Current Drug	Formulation Alternatives/Administration guidance ²	Drug Tariff Special (✓)	Minimum Volume* (Tariff Specials²)	Cost of possible alternative¹ (the cost of the minimum volume has been quoted for Drug Tariff specials, please note that there is an additional cost/ml for quantities above this)
Quetiapine	Other atypical antipsychotics are available in licensed liquid formulations and may be suitable for some patients (e.g. risperidone liquid or orodispersible tablets, amisulpride oral solution).			Risperidone £2.93 (1mg/ml x 100ml) £38.14 (2mg orodispersible tablets x 28) Amisulpride £109.57(100mg/ml x 60ml)
	Quetiapine immediate release tablets can be crushed and mixed with water or added to soft food such as yoghurt to mask the bitter taste ² (off-label use).			£1.23 (25mg x 60 tablets) £2.07 (100mg x 60 tablets) £2.31 (150mg x 60 tablets) £2.94 (200mg x 60 tablets)
	Quetiapine 12.5mg/6ml oral suspension (unlicensed preparation). Quetiapine 25mg/5ml oral suspension (unlicensed preparation). Quetiapine 50mg/5ml oral suspension (unlicensed preparation.)	✓ ✓ ✓	100ml 150ml 100ml	£18.35 £42.38 £22.62
Ramipril	Ramipril 2.5mg/5ml oral solution sugar free (licensed preparation). Expires 1 month after opening (Note-Licensed oral solution has high acquisition cost).			£179.00 (150ml)
	Ramipril capsules can be opened and placed directly into the mouth or mixed with apple juice or apple sauce and given immediately. Please note that the contents taste unpleasant (off-label use).			£1.19 (2.5mg x 28 capsules)
Ranitidine	MHRA quarantined all stock of ranitidine May 2020. There is currently no date to resume supply.			







Current Drug	Formulation Alternatives/Administration guidance ²	Drug Tariff Special (✓)	Minimum Volume* (Tariff Specials²)	Cost of possible alternative¹ (the cost of the minimum volume has been quoted for Drug Tariff specials, please note that there is an additional cost/ml for quantities above this)
Rivaroxaban	Tablets can be crushed and dispersed in water or mixed with apple puree prior to administration (off-label use).			£50.40 (all strengths x28 tablets)
Sertraline	Other SSRIs are available in licensed liquid formulations e.g. fluoxetine 20mg/5ml liquid, citalopram oral drops 40mg/ml (8mg citalopram hydrochloride [4 drops] =10mg citalopram hydrobromide [tablet]). Dose should be expressed in both number of drops and dose in milligrams. Sertraline tablets can be crushed but do not disperse readily in water. They will disintegrate if shaken with water for a few minutes and can be given orally or via a feeding tube. Crushed tablets can be mixed with food but have a bitter taste and may also have a local anaesthetic effect so caution advised (off-label use).			Fluoxetine £12.77 (20mg/5ml x 70ml) Citalopram oral drops £9.4040mg/ml x 15ml) £1.04 (50mg x 28 tablets) £1.22 (100mg x 28 tablets)
Spironolactone	Spironolactone tablets can be crushed and dispersed in water immediately prior to administration (off-label use). Spironolactone 25mg/5ml oral suspension (unlicensed preparation). Spironolactone 50mg/5ml oral suspension (unlicensed preparation). (Note: Suspension is more cost-effective than solution).	* *	125ml 125ml	£15.62 (25mg x 28 tablets) £1.04 (50mg x 28 tablets) £1.22 (100mg x 28 tablets) £21.18 £23.10
Tamsulosin	Review patient and consider alternative drug. If no other alternative modified release capsules may be opened and mixed with water for immediate oral administration. NOTE – do not crush or chew granules.			£1.22 (400micrograms x 30 modified release capsules)
	Tamsulosin 400micrograms/5ml oral solution (unlicensed preparation). (Note: Solution is more cost effective than suspension).	✓	100ml	£73.28







Current Drug	Formulation Alternatives/Administration guidance ²	Drug Tariff Special (✓)	Minimum Volume* (Tariff Specials²)	Cost of possible alternative ¹ (the cost of the minimum volume has been quoted for Drug Tariff specials, please note that there is an additional cost/ml for quantities above this)
Terbinafine	Tablets may be crushed and dispersed in water prior to oral administration (off-label use).			£1.42 (250mg x 14)
	Terbinafine 250mg/5ml oral suspension (unlicensed preparation).	✓	50ml	£25.26
Tetrabenazine	Tetrabenazine 25mg tablets may be crushed and mixed with water (off-label use).			£107.69 (25mg x112 tablets)
	Tetrabenazine 25mg/5ml oral suspension (unlicensed preparation).	✓	140ml	£17.76
Thiamine	Tablets will disperse in water in greater than 2 minutes or tablets can be crushed and mixed with water² (off-label use).			£4.35 (100mg x 100 tablets)
	Thiamine oral <u>suspension</u> 100mg/5ml (unlicensed preparation).	✓	100ml	£24.75
Tocopherol acetate	Vitamin E <u>suspension</u> (alpha tocopheryl acetate) 500mg/5ml (licensed preparation) (100mg = 1ml). (Note- Licensed oral solution has high acquisition cos. Solution is more cost-effective than suspension).			£76.81 (100ml)
Topiramate	Topamax ® capsules (Sprinkle®). Swallow whole or sprinkle contents of capsule on soft food and swallow immediately without chewing (licensed preparation).			£14.79 (15mg x 60 capsules) £22.18 (25mg x 60 capsules) £36.45 (50mg x 60 capsules)
	Topiramate 25mg/5ml oral suspension (unlicensed preparation).	✓	100ml	£8.29
Tranexamic acid	Tranexamic acid 500mg tablets can be crushed and mixed with water prior to administration ² . (off-label use).			£6.48 (500mg x 60 tablets)
	Tranexamic acid 500mg/5ml oral solution (unlicensed preparation). (Note: Solution is more cost-effective than suspension.	✓	100ml	£25.25







Current Drug	Formulation Alternatives/Administration guidance ²	Drug Tariff Special (✓)	Minimum Volume* (Tariff Specials²)	Cost of possible alternative¹ (the cost of the minimum volume has been quoted for Drug Tariff specials, please note that there is an additional cost/ml for quantities above this)
Venlafaxine	Venlafaxine oral <u>solution sugar free</u> 37.5mg/5ml (licensed preparation). Venlafaxine oral <u>solution</u> sugar free 75mg/5ml (licensed preparation).	*	150ml 150ml	£162.00 £212.00
	Standard release tablets can be dispersed in water or crushed and given in jam or smooth food ² (off-label use).			£3.13 (75mg x 56 tablets)
	Modified release capsules can be emptied out and given in smooth food. Please note the beads must be swallowed whole and not crushed or chewed ² . Some brands contain mini tablets within the capsules, and these should not be opened (off-label use).			£3.29 (75mg MR capsules) £4.72(150mg MR capsules)
Zopiclone	Zopiclone tablets are not suitable for crushing or dissolving, consider temazepam 10mg/5ml oral solution (licensed preparation) as an alternative. Alternatively, zolpidem tablets can be crushed and mixed with water for administration orally or via a feeding tube (off-label use).			£154.36(10mg/5ml x 300ml) £0.89 (10mg x 28 tablets)
	Zopiclone oral <u>solution</u> 3.75mg/5ml (unlicensed preparation). Zopiclone oral <u>solution</u> 7.5mg/5ml (unlicensed preparation). (Note: oral <u>solution</u> is more cost-effective than suspension for both strengths).	* *	150ml 100ml	£31.02 £28.86







* Drug Tariff specials are reimbursed at a set price for quantities up to and including a "minimum volume" with an additional cost per ml/g for quantities above this. Return to the top of the document

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Chart 1. Hierarchy of risk, adapted from MHRA guidance (on basis of product origin)

